United Nations

Report of the United Nations Scientific Committee on the Effects of Atomic Radiation

General Assembly
Official Records
Fifty-seventh session
Supplement No. 46 (A/57/46)

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Note

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1. Since its inception in 1955, the United Nations Scientific Committee on the Effects of Atomic Radiation[1] has undertaken broad reviews of the sources and effects of ionizing radiation in response to widespread concerns regarding the effects of ionizing radiation on human health and the environment. At the time of its formation, nuclear weapons were being tested in the atmosphere, and radioactive debris was dispersing throughout the environment, reaching the human body through the intake of air, water and foods. The Scientific Committee was mandated to collect, assemble and evaluate information on the levels of ionizing radiation and radionuclides from all sources (natural, medical and anthropogenic) and to study their possible effects on humans and the environment.

2. Treaties now ban tests of weapons in the atmosphere, but many other exposures to radiation occur from other sources and practices. Nuclear reactors are used in many countries to produce electrical energy; their operation is responsible for only a minute fraction of radiation exposure worldwide, but there is concern about the levels of possible radiation-related adverse health consequences from accidents such as that which occurred at Chernobyl in 1986. The most significant source of exposure globally continues to be natural radiation, which has always existed on the world and to which everyone is exposed. Natural radiation sources include cosmic rays that enter the atmosphere from outer space, potassium, uranium, radon and other radionuclides in soil, water, food and the human body. Some occupational workers and members of the public are exposed to enhanced levels of naturally occurring radioactive materials. Medical diagnostic and therapeutic procedures utilizing X-rays and radionuclides are increasingly common throughout the world. The global exposure of populations from natural or medical sources continues to be considerably larger than that caused by fallout from weapons testing, even at its peak during the mid-1960s.

3. Though the work of the Scientific Committee is performed by its 21 member States, its work is done on behalf of all States Members of the United Nations and the international scientific community. The assessments by the Scientific Committee of sources of exposure are representative of all regions of the world, since the information is compiled from its questionnaires on natural, occupational and medical sources of exposure, which are sent to all Member States. Many have set up detailed governmental data collecting systems to provide the requisite information. The work of the Scientific Committee receives considerable leverage from contributions in kind provided by national organizations comprising the 21 national delegations to the Scientific Committee and by the international organizations that participate in its deliberations.[2]

4. All States Members of the United Nations further benefit from the work of the Scientific Committee, which now plays a central, indeed a pre-eminent, role in radiation risk assessment worldwide. Estimates of the carcinogenic risk from exposure to ionizing radiation, assessments of exposure from various sources, estimates of the exposure to and effects of the Chernobyl accident and scientific judgements on subjects germane to radiation risk assessment were presented in its millennium (2000) report (1220 pages). In its 2001 report (160 pages) the Scientific Committee completed a comprehensive review of the risks to offspring (hereditary risks) following parental exposure to radiation.[3] The United Nations family, international organizations and the scientific community regard those reports as authoritative, state-of-the-art reviews. The assessments by the Scientific Committee provide the scientific foundation used by the International Commission on Radiological Protection in developing its recommendations for radiation protection, which constitute the substantive basis for the enactment into law of regulations for radiation protection in most countries of the world. Assessments by the Scientific Committee are similarly used by the International Atomic Energy Agency in formulating its Basic Safety Standards for the protection of people and the safety of radiation sources.

5. At its recent fiftieth session, held in Vienna from 23 to 27 April 2001, the Scientific Committee decided on a new programme of work. In brief, the Scientific Committee was to gather new data on radiation exposure from natural, man-made and occupational sources; extend its evaluation of medical exposures, especially in relation to new diagnostic procedures that

can result in high doses; perform a comprehensive assessment of radon in homes and workplaces; and examine the effects of radiation on the environment as part of a study on radioecology. The Scientific Committee also planned to use the cellular and molecular concepts of its 2000 report to address radiation effects at the level of tissues and organs; examine the potential consequences of newly identified cellular responses to radiation for the development of cancer risk from radiation; continue to perform epidemiological evaluation of cancer and additionally of diseases other than cancer that may be increased by radiation; and continue its studies on the radiological health effects from the Chernobyl accident. (To assist the continued work on Chernobyl, the Scientific Committee has now established official collaboration with scientists in Belarus and Ukraine, as well as continuing consultations with the Russian Federation, which is a member of the Scientific Committee.) Those plans were endorsed by the General Assembly in its resolution A/56/50 of 10 December 2001. Under its new programme, the Scientific Committee intends to examine the utility of a new "from-sources-to-effects" approach, instead of treating the two subjects separately, in order to make each document more self-contained. A related goal is to make its documents more comprehensible to lay readers, and a web site (www.UNSCEAR.org) has been established since the fiftieth session as part of an effort to make the work of the Committee available to a larger audience.

6. Progress on the main programme of work has unfortunately been delayed because of the inadequate provision of support funds from the United Nations Environment Programme (UNEP). The 2002-2003 biennium budget is insufficient to allow the Scientific Committee to meet and advance its developing documents each year. The non-post funds available to service the annual sessions have deteriorated markedly, and are now one half of the amount necessary. The shortfall (approximately $150,000 over two years) is most crucial in regard to funds for consultants to assist the Secretariat in the preparation of documents and to disseminate the findings of the Scientific Committee; those funds are now one fifth of the amount required. When that situation became known, the Scientific Committee first asked for a reconsideration of the matter by UNEP, which the General Assembly had requested, in its resolution 56/50 (as well as in earlier resolutions concerning the Scientific Committee) "to continue providing support for the effective conduct of the work of the Scientific Committee and for the dissemination of its findings to the General Assembly, the scientific community and the public". The budget crisis was summarized in a letter, dated 31 January 2002 (see appendix), from the Chairperson of the Scientific Committee to the Executive Director of UNEP, containing a request for additional funding and furnishing the rationale for the request. The response of UNEP was that it is not possible to provide funding to the Scientific Committee from the UNEP budget.

7. The letter reproduced in the appendix was supported by the presiding officers of the Scientific Committee, who also took part in the drafting of the present report. The officers of the Scientific Committee are currently the following: Chairperson, J. Lipsztein (Brazil); former Chairman, L.-E. Holm (Sweden); Vice-Chairman, Y. Sasaki (Japan); and Rapporteur, R. Chatterjee (Canada). Those officers will also serve at the fifty-first session of the Scientific Committee. The goal of the officers is to ensure that proper functioning of the Scientific Committee in future years is restored, since efforts to obtain redress of the 2002-2003 budget have been exhausted. The work of the Scientific Committee now has to face a one-year hiatus, because the Scientific Committee decided to address the current shortfall administratively by rescheduling the fifty-first session to take place from 27 to 31 January 2003. That would enable 2003 funds to be coupled with 2002 funds to allow one full-scale meeting during the two-year period. That would allow limited progress to be made in implementing the provisions of General Assembly resolution 56/50. Such a solution was viewed as a stop-gap measure only: one meeting every two years is certainly not enough to ensure the timely development of the new assessments needed to incorporate, for example, new developments in radiation and cellular biology into radiation risk assessments.

8. It is imperative that a solution be found to the budget crisis of the Scientific Committee. Budgetary support has been declining for a number of years. The Scientific Committee is not only an international authority in radiation risk assessment, but its work has also been consistent with the objectives of UNEP programmes. It is part of the mandate of UNEP to support the Scientific Committee, yet a major factor in recent decreases has been the failure of UNEP to allow the secretariat of the Scientific Committee to provide

input to the formulation of its budgets for either of the two bienniums 2000-2001 or 2002-2003. UNEP has not properly discharged its obligations towards the Scientific Committee. The steady deterioration in the support provided by UNEP to the Scientific Committee is vividly illustrated by the fact that the total budget allocation for the biennium 2002-2003 for the secretariat of the Scientific Committee is currently $674,000, compared to $1,220,800 for 1992-1993 and $928,600 for 1994-1995 (the latter figures are dollars uncorrected for inflation and are applicable to the same staffing levels as those currently existing in the Secretariat). The Scientific Committee requests the General Assembly to reaffirm its support by directing the United Nations Environment Programme to meet its obligations pursuant to paragraph 7 of resolution 56/50. That would enable the Scientific Committee to discharge the responsibilities and mandate entrusted to it by the General Assembly.

Notes

[1] The United Nations Scientific Committee on the Effects of Atomic Radiation was established by the General Assembly at its tenth session, in 1955. Its terms of reference are set out in resolution 913 (X) of 3 December 1955. The Committee was originally composed of the following Member States: Argentina, Australia, Belgium, Brazil, Canada, Czechoslovakia, Egypt, France, India, Japan, Mexico, Sweden, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland and United States of America. The membership of the Committee was subsequently enlarged by the Assembly in its resolution 3154 C (XXVIII) of 14 December 1973 to include the Federal Republic of Germany, Indonesia, Peru, Poland and the Sudan. By its resolution 41/62 B of 3 December 1986, the Assembly increased the membership of the Committee to a maximum of 21 members and invited China to become a member.

[2] A list of the 58 national organizations and 4 international organizations making contributions in kind may be obtained from UNSCEAR electronically upon request or viewed on the UNSCEAR web site (www.UNSCEAR.org)

[3] For the previous substantive reports of the United Nations Scientific Committee on the Effects of Atomic Radiation to the General Assembly, see *Official Records of the General Assembly, Thirteenth Session, Supplement No. 17* (A/3838); ibid., *Seventeenth Session, Supplement No. 16* (A/5216); ibid., *Nineteenth Session, Supplement No. 14* (A/5814); ibid., *Twenty-first Session, Supplement No. 14* (A/6314 and Corr.1); ibid., *Twenty-fourth Session, Supplement No. 13* (A/7613 and Corr.1); ibid., *Twenty-seventh Session, Supplement No. 25* (A/8725 and Corr.1); ibid., *Thirty-second Session, Supplement No. 40* (A/32/40); ibid., *Thirty-seventh Session, Supplement No. 45* (A/37/45); ibid., *Forty-first Session, Supplement No. 16* (A/41/16); ibid., *Forty-third Session, Supplement No. 45* (A/43/45), ibid., *Forty-eighth Session, Supplement No. 46* (A/48/46); ibid., *Forty-ninth Session, Supplement No. 46* (A/49/46); ibid., *Fifty-first Session, Supplement No. 46* (A/51/46); and ibid., *Fifty-fifth Session, Supplement No. 46* (A/55/46 and Corr.1 Arabic only). These documents are referred to as the 1958, 1962, 1964, 1966, 1969, 1972, 1977, 1982, 1986, 1988, 1993, 1994, 1996 and 2000 reports, respectively. The 1972 report, with scientific annexes, was published as *Ionizing Radiation: Levels and Effects, Volume I: Levels and Volume II: Effects* (United Nations publication, Sales Nos. E.72.IX.17 and 18). The 1977 report, with scientific annexes, was published as *Sources and Effects of Ionizing Radiation* (United Nations publication, Sales No. E.77.IX.1). The 1982 report, with scientific annexes, was published as *Ionizing Radiation: Sources and Biological Effects* (United Nations publication, Sales No. E.82.IX.8). The 1986 report, with scientific annexes, was published as *Genetic and Somatic Effects of Ionizing Radiation* (United Nations publication, Sales No. E.86.IX.9). The 1988 report, with scientific annexes, was published as *Sources, Effects and Risks of Ionizing Radiation* (United Nations publication, Sales No. E.88.IX.7). The 1993, 1994 and 1996 reports, with scientific annexes, were published as *Sources and Effects of Ionizing Radiation* (United Nations publication, Sales Nos. E.94.IX.2, E.94.IX.11 and E.96.IX.3, respectively). The 2000 report, with scientific annexes, was published as *Sources and Effects of Ionizing Radiation, Volume I: Sources and Volume II: Effects* (United Nations publication, Sales Nos. E.00.IX.3 and 4). The 2001 report, with scientific annex, was published as *Hereditary Effects of Radiation* (United Nations publication, Sales No. E.01.IX.2).

Appendix

Communication dated 31 January 2002 from the Chairperson of the United Nations Scientific Committee on the Effects of Atomic Radiation addressed to the Executive Director of the United Nations Environment Programme

The Secretary of UNSCEAR has apprised us of his letter 23 January 2002 to you, describing how the appropriations for UNSCEAR in the newly begun budget biennium (2002-2003) are insufficient and would seriously compromise the functioning of the Committee. The Executive Officers of the Committee strongly support the Secretary's recommendation to you that additional funds, adequate to support the Committee continuing its work annually, be supplied. This would allow a short-term solution wherein the Committee could continue functioning properly in the current budget biennium, albeit at a minimalist level. Failing that, we see no alternative but to cancel the UNSCEAR session planned for 6-10 May 2002, and have only a single meeting this biennium, in 2003, supported by funds saved by postponing the 2002 meeting.

The most recent General Assembly statement on the work of UNSCEAR, Resolution 55/121 of 27 February 2001, was highly complimentary of the work of the Committee and specifically directed UNEP "*to continue providing support for the effective conduct of the work of the Scientific Committee and for the dissemination of its findings to the General Assembly, the scientific community and the public*". This obligation is not being met. The difficulty is most acute with respect to funds for consultants. The Committee has been delivering documents of ever-increasing scope and complexity. These have included important new activities in radiation risk assessment, as well as protection of the environment and the continuation of our work on ascertaining the radiological health effects of the Chernobyl accident. Some of these areas are rapidly developing and require scrutiny on an annual basis. The UNSCEAR Reports are the world standard in radiation risk assessment, and have contributed to the stature of the United Nations and UNEP. This work is highly cost-effective, and has been accomplished largely because of the diligence and contributions-in-kind of the members of the Committee and of the consultants.

To compensate for the eroding resources supplied to UNSCEAR over the past decade and longer, national organizations had been implicitly underwriting the work of UNSCEAR by furnishing "low cost" consultants from within their ranks. This state of affairs cannot continue, and indeed had already been curtailed at the end of the 49th session in 2000. As a result, both our reliance on and need for consultants has increased. Consultants are also increasingly recruited from further afield, which increases travel costs, and from academia, where institutional 'underwriting' is not possible. Additionally, the honoraria amount for consultants is now but a fraction of what we paid in the 1980's. Increased, not decreased, funding is urgently needed. In the longer term, we need to aim for parity (adjusted for inflation) with what we formerly paid, and the number of consultants needs to increase to reflect our increasing output.

For the longer-term solution, then, it is imperative that we not merely arrest the continuing deterioration of the UNSCEAR budget, but reverse it. The amounts

provided in the 2000-2001 appropriations would not nearly have been adequate, had a full program of work been allowed by the timely recruitment of a new Secretary. Matters have gotten worse since. The inattention to UNSCEAR's circumstances must cease.

We therefore suggest a two-pronged strategy: (1) To enable the Committee to function properly in the next two years, an additional $65,000-70,000 is required—and should be provided—in each of the years 2002 and 2003. (2) For the subsequent budget biennium, 2004-2005, the annual appropriations for consultants should be increased further, to reach parity (adjusted for inflation) with what we were paying in the 1980's. We also strongly recommend the establishment at that time of a second professional position in the UNSCEAR Secretariat, along with staff travel funds sufficient to allow them to address their responsibilities and disseminate more widely the work of the Committee.

This communication has been discussed with the other Executive Officers of the Committee, and they strongly support it. They have asked that each of their country's Permanent Mission to the International Organizations in New York be copied on it, as well as the Representatives to UNSCEAR from the other 21 Member States (these may wish to inform their Country's Permanent mission as well).

As a further action, we can achieve wider recognition of our situation by describing the deplorable current state of affairs in our next Report to the General Assembly (May 2002). We feel strongly that the present situation is inimical to the prestige of the United Nations and the competent discharge of its responsibilities. This includes the international schema for radiation risk assessment; hampering the work of UNSCEAR would lead to adverse impacts on the other international organizations that depend on our assessments. Causing such a gap should be avoided; it is not easily recovered.

It is, further, incompatible with the strong approbation voiced during the 17 October 2001 meeting of the Fourth Committee when they considered our 2001 Report (document A/56/46), and the representations made at that time by several speakers for expanded membership on the Committee.

We require a timely reply, by February 16 please, as we need to decide whether the scheduled meeting for 2002 is possible or will have to be cancelled, with attendant loss of progress.

Joyce Lipsztein
Chairperson of the United Nations Scientific
Committee on the Effects of Atomic Radiation

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